AMENDMENTS TO THE SPECIFICATION:

Please delete paragraph number 0024 as indicated below:

~~FIGURE 14 is a graph of the response of the dual filters weight scale output to a ramp input of 600 ml/hr.~~

Please amend paragraph number 0036 as follows:

FIGURE 2 shows an isometric drawing of the weight scale 119 assembly 200. The assembly comprises a support housing 201 with an attached load cell 202 and a scale beam 203. The load cell may have a rectangular shape with a center cutout 1209, and a strain gauge 206 attached to an edge of the cell. A hook 223 and chain 204 are attached to the scale beam 203 to provide a flexible and easy to use coupling between the weight scale 119 and ultrafiltrate bag 113. The support housing is attached to a base plate inside of the ultrafiltration device by screws that extend through bores 205 on the base of the support housing. The load cell 202 is of the strain gauge 206 is a Whetstone bridge construction formed as a sputtered thin film strain gauge. The load cell 202 is attached to the support housing 201 via two keps screws 207 and is recessed in a machined groove 208 to ensure alignment of the load cell during assembly.

Please amend paragraph 0061 as follows:

0061 FIGURE 8 is an overview of the electrical layout of the ultrafiltration device. The ultrafiltration device 100 (Fig. 1) uses 3 processors in the control and monitoring of ultrafiltration removal. The main controller CPU 601 accepts user input from the membrane panel 614 and shows the user inputs on a display 615. The main controller CPU interfaces to the motor controller CPU 602 via a parallel bus and instructs the motor controller CPU to control the

motor at a set velocity, acceleration and displacement. The motor controller use the quadrature counters which read the quadrature signals output from the encoders 612 and 611 attached to motors 608 and 609 and peristaltic pumps 609, 610 as feedback in the control of motor velocity. The encoders are also connected to a separate quadrature counter 616 which independently read by the main controller and the safety system CPU 603. The safety system CPU and main controller interface to ADC 607 and are capable of reading the withdrawal, infusion and ultrafiltrate pressure sensors 604, the motor currents 605, the weight 606 of the ultrafiltrate bag and the blood leak detector 617. The safety system CPU is capable of disabling (see line 619) the ½ bridge drive 618 to the motors 608, 609 which cut the voltage drive to the motor. The calibration constants for the device including the weight scale offset and gain are stored in non volatile memory (NVRAM) 630.

Please amend paragraph 0071 as follows:

0071 FIGURE 11 shows the flow chart diagram for the ultrafiltration device software to differentiate between false weight scale alarms and real alarms. The strain gauge hardware amplification circuit uses a 2 pole filter low pass filter with a 0.3 Hz cut off frequency 701 to dampen fluctuations in weight. This output is then measured every 20 ms using an ADC interfaced 702 to the main control processor. The scaled ADC count is converted to a weight measurement based upon the gain and offset stored in nonvolatile memory and passed through two first order digital low pass filters in software 703. One low pass filters having a 0.16Hz cut off frequency and the other having a 0.8 Hz low pass filter are applied in step 707. The 0.8 Hz filter has little effect on the already filtered 0.3 Hz signal performed in hardware. Its purpose is to remove electrical noise if present. If the absolute difference of the two digital low pass filters

1060242

reads less than or equal to 20 grams 704 of each other for 3 seconds when read at a 50 Hz sample rate, it means that there is no significant noise in the system and a stable measurement can be taken. The volume displaced by the ultrafiltrate pump integrated over the past 100 ml is compared to the weight increase seen by the weight scale ~~705~~ 709 and if the absolute difference of the resulting value is less than or equal to 30 ml 705, no alarm is annunciated in step 706. If the absolute difference of the resulting value is greater than 30 ml an alarm for a weight scale mismatch is annunciated in step 708. If the absolute difference of the outputs of the two digital low pass filters 704 read greater than 20 grams of each other for 5 minutes a weight scale mismatch alarm is declared. At a maximum undetected ultrafiltrate rate of 600 ml/hr for a 5 minute period the limit used by the safety system processor it will result in a volume discrepancy of a 50 ml which is not significant in terms of dehydration in a patient.

Please amend paragraph 0087 as follows:

[0001] 0087 FIGURE 18 shows a graph of the response of dual filters (filter responses shown as 904, 905) to a weight scale input with a 5 Hz sinusoidal weight signal 903 superimposed upon the measured weight- (natural frequency of weight scale). The measured weight is also rapidly increasing and decreasing simulating a person tugging on the ultrafiltrate bag as shown by the oscillations with a frequency of approximately 0.33Hz 906; the traces also show an ultrafiltrate pump over filtrating as shown by the trace segment 907 and a leak in the ultrafiltrate bag as shown by trace segment 908. The x-axis 901 shows time in increments of 10 ms and the y-axis 902 shows the weight in kg. These perturbations are well above the fluid flow rates expected by the bag and well below the 0.87 Hz pendulum frequency and 5 Hz natural frequency of the weight scale. Thus the dual filters deviate considerably from each other and no

longer meet the 20 gram difference algorithm between the dual filters described in 704 of Fig 11 for the measurement of a stable weight.